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PHILADELPHIA

SOCIAL SCIENCE ASSOCIATION.

Our Present Race Deterioration;

AN ARGUMENT FOR TECHNICAL EDUCATION.

READ BEFORE THE ABOVE ASSOCIATION, FEBRUARY 13TH, 1879.

A. C. REMBAUGH, M. D.,

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THE FOLLOWING IS A LIST OF THE PAPERS READ BEFORE THE
ASSOCIATION.

1871. *Compulsory Education.* By Lorin Blodget. Out of print.
Arbitration as a Remedy for Strikes. By Eckley B. Coxe.
The Revised Statutes of Pennsylvania. By R. C. McMurtrie. Out of print.
Local Taxation. By Thomas Cochran.
Infant Mortality. By Dr. J. S. Parry.
1872. *Statute Law and Common Law, and the Proposed Revision in Pennsylvania.*
By E. Spencer Miller. Out of print.
Apprenticeship. By James S. Whitney.
The Proposed Amendments to the Constitution of Pennsylvania. By Francis Jordan.
Vaccination. By Dr. J. S. Parry.
The Census. By Lorin Blodget.
1873. *The Tax System of Pennsylvania.* By Cyrus Elder.
The Work of the Constitutional Convention. By A. Sydney Biddle.
What shall Philadelphia do with its Paupers? By Dr. Isaac Ray.
Proportional Representation. By S. Dana Horton.
Statistics Relating to the Births, Deaths, Marriages, etc., in Philadelphia. By John Stockton-Hough, M.D.
On the Value of Original Scientific Research. By Dr. Ruschenberger.
On the Relative Influence of City and Country Life, on Morality, Health, Fecundity, Longevity and Mortality. By John Stockton-Hough, M.D.
1874. *The Public School System of Philadelphia.* By James S. Whitney.
The Utility of Government Geological Surveys. By Prof. J. P. Lesley.
The Law of Partnership. By J. G. Rosengarten.
Methods of Valuation of Real Estate for Taxation. By Thomas Cochran.
The Merits of Cremation. By Persifor Frazer, Jr.
Outlines of Penology. By Joseph R. Chandler.
1875. *Brain Disease, and Modern Living.* By Dr. Isaac Ray. Out of print.
Hygiene of the Eye, Considered with Reference to the Children in our Schools.
By Dr. F. D. Castle.
The Relative Morals of City and Country. By Wm. S. Pierce.
Silk Culture and Home Industry. By Dr. Samuel Chamberlaine.
Mind Reading, etc. By Persifor Frazer, Jr.
Legal Status of Married Women in Pennsylvania. By N. D. Miller.
The Revised Statutes of the United States. By Lorin Blodget.
1876. *Training of Nurses for the Sick.* By John H. Packard, M.D.
The Advantages of the Co-operative Feature of Building Associations. By Edmund Wrigley.
The Operations of our Building Associations. By Joseph I. Doran.
Wisdom in Charity. By Rev. Charles G. Ames.
1877. *Free Coinage and a Self-Adjusting Ratio.* By Thomas Balch.
Building Systems for Great Cities. By Lorin Blodget.
Metric System. By Persifor Frazer, Jr.
1878. *Cause and Cure of Hard Times.* By R. J. Wright.
House-Drainage and Sewerage By George E. Waring, Jr.
A Flea for a State Board of Health. By Benjamin Lee, M. D.
The Germ Theory of Disease, and its Present Bearing upon Public and Personal Hygiene. By Joseph G. Richardson, M.D.
1879. *Delusive Methods of Municipal Financiering.* By W. H. Ford.
Technical Education. By A. C. Rembaugh, M.D.

OUR PRESENT RACE DETERIORATION: AN ARGUMENT FOR TECHNICAL EDUCATION.

THE subject chosen for discussion may be considered extra-medical, yet it must be allowed that a doctor's field of observation and discussion ought to be practically unlimited. Any thing, indeed, which concerns the prosperity of his age, is one he is called upon to investigate. Medicine alone will never cure all the ills that flesh is heir to. The laws of Physiology must be known, to promote health and healthful civilization. Any race or nation which does not know and observe such laws, must degenerate. Our school teachers and children should, from their earliest years, be thoroughly rooted and grounded in them.

This, as well as other important scientific knowledge, could readily be made attractive through Pantographic object lessons. Exercises and charts could be made the vehicle for conveying solid information to replace the nonsense now made use of in first lessons.

It is perfectly patent to all thinking persons, that our popular education is not the panacea for all the ills that afflict society, as has been fondly believed. It requires no special observation, except to the wilfully blind, to see plainly enough race deterioration going on around us. Prisons and prisoners, almshouses, paupers and tramps, insane asylums and insane. The increasing demand for hospitals, reformatories and all such institutions are multiplying, out of proportion to the increase of population. Consumption and other scrofulous diseases can readily be traced as the direct result of our education.

An excess of two or three hours study a day for all children under twelve years of age, is absolute cruelty. Two or three hours mental work daily, throughout the year, would be better than the present system. It would reach all classes, especially those for whom the public schools were particularly intended, the unschooled twenty thousand, and the sixty per cent. of our children who graduate from our primaries and secondaries. Poor parents cannot afford to give the whole time of their children to the schools, and it is better for the child's morals and future usefulness that they cannot. Some kind of handicraft should be begun in the primary

school and should follow the pupil all the way through, as it would generally benefit both the moral and physical culture.

The time under twelve years should be divided thus, to insure future health and usefulness:—Twelve hours in bed; three at mental, three at manual work; and six in open-air exercises of some kind,—cultivating the soil the most invigorating. Crowding into cities of all, and especially the poor, should be discouraged. Each family should have its own plot of ground for the exercise and work of the children.

A child can be reared to be healthful and industrious, while to cure a diseased body or reform the criminal is a very doubtful matter; therefore, look well to the children.

Under a rational education they would grow up and find their pleasure in more elevating and less debasing amusements than now gratify them. There is no valid reason why education should not go on for life, instead of stopping at eight, ten, twelve or fifteen, on account of broken-down health, headache, ruined eyes, or any other cause. Acquiring a thorough education should be as natural and physiological a process as eating or breathing.

“Of 731 collegiate scholars, 296, or 40 per cent., suffered frequent headache. Of 3,564 scholars of public schools, 974, or 27.3 per cent., suffered from headache. Bleeding from the nose was found in 20 per cent. Spinal diseases were found in 20 per cent., and of these, 84.9 per cent. were females.”

“One hundred and forty-six physicians of Massachusetts have declared that our system of education promotes consumption.”

“To tens of thousands that are killed, add hundreds of thousands that survive with feeble constitutions, and millions that grow up with constitutions not so strong as they should be, and you will have some idea of the curse inflicted on their offspring by parents ignorant of the laws of life. Do but consider for a moment, that the regimen to which children are subject is hourly telling upon them, to their life-long injury or benefit, and that there are twenty ways of going wrong to one way of going right, and you will get some idea of the enormous mischief that is almost everywhere inflicted by the thoughtless, hap-hazard system in common use. Is it decided that a boy shall be clothed in some flimsy short dress, and be allowed to go playing about with limbs reddened by cold? The decision will tell on his whole future existence,—either in ill-

ness or in stunted growth, or in deficient energy, or in a maturity less vigorous than it ought to have been, and consequent hindrances to success and happiness, and inflict disease and premature death, not only on him, but on his descendants.”—Herbert Spencer.

Mr. Hilary Bygrave says, of our young people:—

“If there is one thing more than another lacking in the young people of our time, it is force of character, self-reliance, courage to meet and grapple with the stern realities of life. Never, perhaps, were young people so well cared for, so well clad, so well educated, in the technical sense; never was the path of life made so smooth before them; and yet there seems to be a feeling that they are wanting in the grit, endurance, independence and force which belonged to former generations.”

Another author says:—

1. “That the public school does not go down low enough into the strata of humanity to affect the very classes that have most need of it.

2. “That school instruction deals too much with technical scholarship, and too little with practical utilities.

3. “That a knowledge of some form of industrial labor is at least as necessary as a knowledge of books.”

Mr. Wendell Phillips says:—

“The fact is, that many young people, graduates of our public schools, are not capable of doing any work for which anyone should pay a dollar; nor can they write a decent letter, nor even read a newspaper well. The old New England system, which made a boy work six months by his father’s side, on the farm or in the workshop, after he had been six months at school, was better than the present one. From such a system it was possible to get such a man as Theodore Parker. Now the public school hands a child to its parents with no means of earning its bread.”

The following is a sample of the language used by the various prison authorities of our country in their annual reports:

“Millions are annually expended in this state (Connecticut), to secure our youth the advantages of a good common school education, with the general impression that such instruction is a sure preventive of crime. Without intending the slightest reflection against this happy conclusion, we find our penitentiaries are filling

up with many well-educated young men, who, on investigation, have never been indentured to any regular trade or business, and, without employment, are easily led into temptation and vice.

“On careful inquiry of our younger prisoners, we find it is not the want of a common school education, so much as the need of a good trade, with its habits of thrift, industry and common employment, that crowds our streets with paupers and our state prisons with convicts. With these facts staring us in the face, from all the jails, work-houses and penitentiaries of our state, is it not time for some legislation to restore the old apprentice system, with its binding indentures, legal protection, and encouragement in the effort to acquire some mechanical trade or business education?”

Here is another startling view of our educational shortcomings, presented by the Louisville *Courier-Journal*. It thus speaks of the mighty host of untaught children:

“There are fifteen millions of children in the United States, who may be classed under the head of school children. Of these, are enrolled in public schools about nine millions, and the average daily attendance is only about four million, two hundred and fifty thousand. It follows that some millions of children in this country do not have school training of any kind. This is a dark picture, and one which, in view of the law of universal suffrage, becomes very appalling. We may assume that six millions of children are either in public or private schools. This pupil host represents the forces which are to rule their country hereafter.”

It is estimated that there are about twenty thousand children in this city who live in the alleys and by-ways, who are schooled in nothing but vice and crime, who are thus especially prepared to graduate at some near day from our criminal, pauper, or benevolent institutions, forever during their brief, diseased existence, supported at the expense of the community. It does seem that the state should take entire possession of these waifs of humanity, from their earliest infancy, and educate them in a way that they will be a source of revenue instead of an expense; for, sooner or later, they must come under our care.

I think it behooves our churches to lend a helping hand in this matter. It is not all of Christianity to be so interested in the salvation of one's own soul that the care of others is neglected,—to listen to able and eloquent sermons on Sundays, in imposing edi-

fices, in very comfortable pews, with the soul lulled to sleep by charming music, followed by the discussion of a sumptuous repast. I think the Lord would be served in a far more acceptable manner, by opening these very buildings, if no others could be had, and using them for school houses on week days. They had better be daily filled with the din of hammer and saw of these twenty thousand neglected children, than have them grow up to enlarge the crowd of criminals. I should like also to include the sixty per cent. of children who graduate from our primaries and secondaries with an indistinct knowledge of what has been humorously called "the three R's," so often followed by the fourth R., rascality. All these children should be taught more of Nature and of Nature's God, so that as they run they might read, and

"Find tongues in trees, books in the running brooks,
Sermons in stones, and good in everything."

It is absolute cruelty to keep them housed five hours a day, in crowded, poorly ventilated class rooms, except for a dinner hour and a few minutes' intermission. (I have seen the children turned out on these occasions from the hot room into the open air, without hat or overcoat, the coldest of winter days, at the risk of contracting cold.) Two or three hours a day in the class and two or three hours a day in the work-shop, is the only rational way to educate children to grow up and be healthful and useful citizens, and this might solve the problem for a portion of the twenty thousand unschooled. Two or three hours study, and the rest of the time to help their parents. Let this plan be carried through every day of the year, as a child's time is too precious to waste in the eleven or twelve weeks of vacation. There could then be no harm to allow children to enter the school as soon as they could walk, and talk distinctly. On Sundays, the Sabbath schools could take up the theme, and teach them of the wonders of Nature and of Nature's God.

It is perfectly amazing to reflect upon our deplorable educational status, after the prodigious amount of writing, preaching, printing and talking, aiming at a higher, broader, more useful and less wordy education, from Aristotle down to the present. Pestalozzi and Froebel died martyrs to their theories, though at this late day they are awakening attention. I suppose others must follow, for who ever heard of a benefactor of the human race who

did not have to wade through fire before the listless masses could be made to see what he saw from the mountain top?

In 1832, forty seven years ago, the following report was made to the Legislature of this state, by a committee of that body :—

1. "That the expenses of education, when connected with manual labor judiciously directed, may be reduced one-half.

2. "That the exercise of about three hours daily labor contributes to the health and cheerfulness of the pupil, by strengthening and improving his physical powers, and by engaging his mind in useful pursuits.

3. "That, so far from manual labor being an impediment in the progress of the pupil in intellectual studies, it has been found that in proportion as one pupil has excelled the other in the amount of labor performed, the same pupil has excelled the other, in equal ratio, in his intellectual studies.

4. "That the manual labor institutions tend to break down the distinctions between rich and poor, which exist in society, inasmuch as they give an almost equal opportunity of education to the poor, by labor, as is afforded to the rich by the possession of wealth: and

5. "That pupils trained that way are much better fitted for active life, and better qualified to act as useful citizens than when educated in any other mode; that they are better intellectually and morally."

Why such a report as this should be allowed to take this long Rip-Van-Winkle sleep seems incomprehensible; but volumes have been written, the press daily teems with suggestions, message after message from those in authority, and yet but a small minority of our Board of Education seem to realize the serious responsibility of their position, and are fighting manfully, like heroes, in the good cause.

Professor Huxley thus speaks of our present educational system :—

"The educational abomination of desolation of the present day, is the stimulation of young people to work at high pressure, by incessant competitive examinations. The vigor and freshness which should have been stored up for the hard struggle for existence in practical life, have been washed out of them by precocious mental debauchery, by book-gluttony and lesson-bibbing. Their

faculties are worn out by the strain put upon their callow brains, and they are demoralized by worthless, childish triumphs, before the real work of life begins. I have no compassion for sloth, but youth has more need for intellectual rest than age; and the cheerfulness, the tenacity of purpose, the power of work, which make many a successful man what he is, must often be placed to the credit, not of his hours of industry, but to that of his hours of idleness in boyhood. Even the hardest worker of us all, if he has to do with anything above mere detail, will do well, now and again, to let his brain lie fallow for a space. The next crop of thought will certainly be all the fuller in the ear, and the weeds the fewer."

The London *Medical Times and Gazette*, for November, 1877, contains some statements from the last report of the Commissioners of Lunacy, to the following effect:—

"Ever since the year 1859 there has been a steady increase of insanity in England and Wales, amounting to more than one thousand annually. The largest number was in 1869, amounting to two thousand one hundred and seventy-seven; the smallest in 1875, which was only one thousand one hundred and twenty-three. During other years, the amount of increase ranged between these two numbers. From 1859 to 1876 the total of insane persons increased from thirty-six thousand seven hundred and sixty-two to sixty-six thousand six hundred and thirty-six. It is said the general population of England and Wales increases annually at the rate of one and a half per cent., while insanity and imbecility increase at the rate of three per cent. Probably, statistics would show a similar rate of increase in the United States."

Maudsley says:—"In the hard struggle for existence, men of inherited weakness, or some other debility, break down in madness. Overcrowding deteriorates health; favors scrofula, phthisis, and faulty nutrition,—all of which open the way to insanity; and whatever deteriorates mental or bodily health may lead to insanity in the next generation."

Galton says:—"Social agencies are unsuspectedly working towards the degeneration of humanity, and it is a duty we owe the race to study this power and to combat it to the advantage of the future inhabitants of the earth." He further says:—"With the deterioration of the condition of the masses, their organization and functions, there will be plenty of idiots, but very few great men;

the general standard of mind is but little above the grade of trained idiocy."

A glance at the following figures will show the disproportionate increase of the insane in the United States.

In fifty-four asylums, in

1839,	1,329	insane,	with	961	annual	new	cases.
1849,	7,029	"	"	2,961	"	"	"
1859,	13,696	"	"	5,342	"	"	"
1869,	22,549	"	"	8,769	"	"	"

"Our race is overweighted, and likely to be drudged into degeneracy, by demands that exceed its powers."

"Is this lesson not plain enough, when the universally educated Scandinavians have 3.4 insane in one thousand population, the cultivated Germans 3 in one thousand, the less educated Roman nation 1 in one thousand, and the most barbarous Slavonic races 0.6 in one thousand; and again, when the ratio of insane to the population in large cities is greater than in the country, and the professionally educated, who compose 5.04 per cent. of the population, yield 13.8 of all the insane? If, then, our civilization and education are especially productive of human deterioration and insanity, is it not reasonable to ask that education should studiously avoid and oppose whatever degenerates mankind?"

In this country we certainly have no dearth of schools and colleges, which aim at all conceivable objects, and must fall short of their full results, because they encourage only a partial education, one that is one-sided rather than symmetrical, of the intellect and not of the complete man.

"It was not books, but *thought*, the discourse," says Thornton, "that developed the Grecian mind."

"In educated Massachusetts, we find in three hundred and sixty-four natives, one pauper, and in five hundred and forty-six, a convict, whilst one in every three hundred and forty-eight foreign born is a pauper. and one in every two hundred and fifty-two is a criminal."

We must now glance at the other side of the question.

"The eminent sanitarian and prison reformer, Dr. Harris, has carefully examined the personal relations of two hundred and thirty-three convicts. Fifty-four were found belonging to families in which insanity, epilepsy and other disorders of the nervous system

are reported. Eighty-three per cent. belonged to a criminal, pauper, or inebriate stock, and were therefore hereditarily or congenitally affected; and hence, nearly seventy-six per cent. of their number proved habitual criminals."

The following is the fruit borne by the cheap education of a family. The four Juke sisters in the state of New York, during seventy-five years. A regiment of six hundred unproductives, a loss and cost to the state of \$1,308,000.

New York has \$50,000,000 invested in various kinds of charitable institutions, and spends yearly \$10,000,000 for their support, with as much more for criminal prosecution and maintenance.

Philadelphia gives in alms \$4,500,000 yearly to thousands in idleness and unproductiveness, except the bringing of more paupers into the world. Why not give the children of these a practical education, in the country, if possible, and put a stop to this unproductive wastefulness. The millenium will never come until this is done.

Ruskin says: "Though England is deafened with spinning wheels, her people have no clothes; though she is black with digging coal, her people have no fuel and they die of cold; and though she has sold her soul for gain, they die of hunger."

Thirty thousand persons own nearly all the land of England and Scotland, and what they do not reserve for parks and hunting grounds, or suffer to lie waste, is rented out to three hundred thousand tenants, and these in turn employ about four million laborers, who are little else than paupers, and their ignorance keeps them so, and England's experience should teach us to beware of her example. Her ambition to manufacture for and carry on the commerce of the whole world, while benefitting the few, tends to the degradation of the masses.

Let the people be educated to be producers as well as consumers, and we will not be troubled with the ugly problem of shirtless backs and shoeless feet.

Some of our state agricultural colleges—the industrial school at Hampton, Va., Cornell University, Boston Institute of Technology, and others,—appear to have taken a long step forward in the right direction, in providing practical work in the field and workshop. Our own International Exhibition is now engaged in developing a splendid scheme for the practical education of our

youth, and I hope our citizens will give it cordial aid and encouragement. The Philotechnic Institute of this city is also endeavoring to develop an improved system, by which the youngest child can acquire skill in the use of his hands with tools, at the same time he is acquiring information far more valuable than the wordy nonsense now taught.

The Pantographic Model School, which was opened by this organization last July, has been in active operation ever since, with an average attendance of twenty-five to thirty boys and girls, from fifteen to four years of age; but it is now in a deplorable condition, for lack of money.

The public will encourage nothing until it is already an assured success, and to wait for the school board to take hold, as has been suggested, will be folly and consume another fifty years, as large bodies move slowly.

After the most diligent effort, there has been raised \$161.35. There should have been \$1,000 at least,—\$5,000 would be better,—to establish and run the school on thorough business principles.

The school is finely located in an old hotel building (1608 and 1610 Ridge Avenue), of twenty rooms, but one of which is now occupied, and that is in a beggarly condition. There should be work going on in each one of these rooms, as was the design, if money and implements could be had.

Says Prof. Royce :—"Every lover of America cannot but look with pleasure at the following table, which shows the growth of schools of science in the United States :—

	1870	1871	1872	1873	1874	1875	1876
Schools,	17,	41,	70,	70,	72,	74,	75.
Teachers,	144,	303,	724,	749,	609,	758,	793.
Students,	1,413,	3,303,	5,395,	8,950,	7,244,	7,157,	7,614.

"These schools of science are an almost infinite improvement upon the old Greek and Latin schools, which, in the vast majority of cases, do more injury than good; and as these schools of science grow older, they will become more practical, and teach more science applied than pure science, with which a graduate leaving the college cannot profit the world sufficiently to get in return for his services a modest meal. We have hardly any schools of industry; and drawing, as useful, and even more so, as writing to every artisan, is but slowly making headway in our common schools,—the only ones the masses are able to attend."

“It is often expressed, that technical pursuits hardly merit the attention of men seeking comfortable living. If this was really so, and an efficient artisan could not make a decent living, incendi- arism and every disorganizing scheme against a society which refuses men a living for the labor it requires of them, would find almost an apology in such an unjustifiable condition. The fact is, we live in a crisis, in which a fat bank account, or even plenty of real estate, is no more security against want than labor is. An average annual importation of \$500,000,000 to \$600,000,000 worth of manufactured goods is evidence that we want more skilled men. The association of industry with the school and science, will raise it to the character of art, and infinitely vary it. No matter how much machinery produces,—as long as men work and exchange their products, they are benefitted. But that they may all have work, industry must take the character of art, which admits of an almost infinite variety and demand; for, of course, with gigantic producing machinery, men cannot find employment in a few rude manufactures. An Arabic enamelled glass lamp, set up in the Louvre, became the support of hundreds of artisans modelling after it.

“An industry raised to the character of art not only gives bread to the masses, but, in purifying the taste of the people, it improves their morals,—for the beautiful and the good are but different expressions of the same thing.”

“Our common schools better teach a little less of geography and a little more of Youman’s Physiology and Hygiene; a little less of grammar and a little more of Youman’s Household Science.”

“The subject matter of our education is not life, but literature; the heroes of which we worship, while we neglect the only true hero of the world,—toiling humanity. The producing classes degenerate in mines and factories, and adulterations and artificial wants do their work on the consumer.”

Every square foot of ground that can be commanded, should be utilized and cultivated, for tilling the soil is the most healthful, morally and physically, of all work or exercise.

What now of physical education? It is all but totally neglected. Our daughters are taught no kind of work whereby their hands may be soiled; consequently, they grow up to be delicate know-nothings, incapable of superintending a household, at the mercy of

ignorant and extravagant servants. The home becomes a sinking fund for the distracted husband, unattractive for him and the children, who are driven elsewhere, from what ought to contain the pure atmosphere of the fireside, into haunts of vice.

Girls suffer most from want of exercise; boys will have it, even if they cannot get systematic work. Gymnastic exercises of a couple of half hours a week, in an unventilated class-room, with a dusty carpet on the floor, are almost if not quite useless. Every girl should graduate a practical, economical housekeeper, instead of having taste for all such exercises washed out of her by wordy lessons.

Nature is ever restless, and nothing can be found in a state of perfect repose; either generation or degeneration is constantly going on in everything. The flow from the country to town is constant and encouraged. Why is this? Because our city population, through the education furnished them, is becoming so effeminate. All inclination for muscular and productive exercise has been lost, and our youth of both sexes are debilitated and consumptive, like a tree all turned to foliage, with no sap left for fruit. Those always found at the head of their classes have studied themselves into their graves, or have become so diseased that they have no longer any capacity, and are never heard of more. It has been observed that nearly every male principal of grammar schools in Boston has been reared in the country, and I have no doubt this is largely the case in this city. This speaks well for our washed-out city graduates.

It has been estimated that London, in two hundred years, would be depopulated, if it were not for the influx of people from the country. Ten thousand more die a year than are born there.

General Walker gives the average life in the United States, in 1870, at 39.25: in New York and Philadelphia it is only twenty-five years.

"The man who could devise a mode of combining manufacturing skill with isolated labor and country residence, would do a greater service to humanity than the whole race of philosophers," says Samuel Royce.

The eye-sight of a large percentage of our youth is ruined, and must seek the aid of the optician, for study or the looking upon the face of friend or of nature.

The prolonged concentration and bending of the head and eye over the printed page, especially the crowded maps, is injurious. Lessons should be acquired with an erect spine, eyes glancing a little upwards and not downwards; a bad light, often coming from the front, instead of rear, complicates the malposition.

“Germany is troubled because of the near-sightedness of its children. In Magdeburg, in the Dom Gymnasium (Cathedral School), Dr. Nieman has examined the eyes of six hundred and fifty pupils, and found in the sixth class 23, in the fifth 25, in the fourth 39, in the third 63, in the second 58, and in the first 95 per cent., of children who were myopic.”

“Examinations, under the direction of medical societies, of the eyes of several thousand school children in the cities of Buffalo, Brooklyn, New York and Cincinnati, have shown a similar degree of diseased eyes, and Dr. Agnew, of New York, suggests that the injured eyes are evidence of other injuries to the health of pupils.”
—*Public Ledger*.

Mr. S. Shettuck, in a paper on the vital statistics of Boston, says:—The average value of life is greater now than during the last century, but not as great as it was twenty years ago. It was at its maximum from 1811 to 1820, and since that time it has somewhat decreased. He also says that forty-three per cent., or nearly one half, of all the deaths that have taken place within the last nine years, are of persons under nine years of age, and the proportion has been increasing. The rate of mortality in cities is fearful, the result of unhealthy surroundings and inherited weakness, from those who have survived hitherto. “In some cases only fifteen persons in a thousand live to be fifty years of age;” Royce says. “Among the destitute of Manchester, England, of twenty-one thousand children, 20,700 die before they reach five years. The remnant who live to bear offspring will bring forth a sorry set of children.”

Bertha Meyer says:—“As it was Adam’s first sin only, that, according to the old theologians, cursed the world, so it is the wrongs inflicted upon children that determine the destiny of man.”

As a panacea for all the ills referred to, I would suggest and warmly advocate an industrial education. Let hand culture go on, side by side with head culture. I would, from the earliest childhood, make it compulsory for all classes and conditions, as I am

confident that without it we are deteriorating morally, physically, intellectually, and industrially.

“In England, the reform in school work, as preventive of the physical injury done by over sedentary work, is claimed to have reduced the death rate one half.”

This industrial education has very little sympathy; indeed, a great deal of determined opposition from school teachers and authorities generally. A Superintendent of Education in New Jersey does make this concession:—he favors industrial education, but says the present system must not be disturbed. A foolish remark, when the same demands all the school facilities, money, and every waking hour of the child's time.

To get the proper teachers for this industrial training, is a matter of some anxiety. I happen to know of a reformatory institution for girls, in New Jersey, which was very much embarrassed in this respect. They could get a thousand,—yes, thousands of teachers of music, but not one competent person to teach these girls how to cut, make and mend their own clothes. This fact alone shows the improper direction of the training in our schools.

It is observed that there are more unhappy marriages and divorces among school teachers than any other class of people. This can be accounted for, because house-keeping and home duties are entirely foreign to their education and habits. It is very difficult to alter these after twelve or fifteen years of age.

Our late Governor, General Hartranft, has repeatedly used language like the following, in his messages in favor of industrial training, and he encourages such schools both by precept and example. He says:—“Everything that will tend to recognize the importance and dignity of labor, that will excite the pride and emulation of the artisan in his work, convince him of the interest of the state in his welfare and the welfare of his children, and secure the fruits of his industry and thrift, should be done; and I am convinced that nothing will contribute so much to these results as the establishment of industrial and scientific schools and workshops, by the side of our present high schools and academies.”

Monarchical countries are paying more and more attention to technical education, and very early youth is found the best time to begin; for not only must the hand be taught to be dexterous, but the mind and taste must also receive their direction. All know

how exceedingly difficult it is for any one to acquire satisfactory use of the pen, after fifteen years of age: neither taste nor mechanical skill can be commanded. This same condition is observed in regard to mechanics,—in the taste, ability and power to perform. The modelling in clay, perforating and needle work on the cardboard, cutting of paper into various forms and pasting them in fancied designs, printing, drawing, carving, sawing, lithographing, etc., are excellent exercises in the development of manual skill, making industry the rule and idleness the exception; for, “As the *twig* is bent, the *tree* inclines.”

Our school children ought to print and bind all their own school books, and, in fact, prepare all the material they make use of in the schools, and thereby lessen taxation many thousands of dollars, or, better, transferring this amount to the underpaid teachers. This plan would reach and influence a goodly portion of the schoolless twenty thousand, inculcate industrious habits, and open a new field of practical instruction. Type-setting, and indeed all mechanical work, would convey more information and create a greater thirst for knowledge, than all the word memorizing.

Some knowledge of the sciences would make of the artisan a much more intelligent workman, even in the single direction of hygiene, while an industrial course would be an excellent thing for those purely professional, making them more practical and less theoretical, and an increased sympathy would arise between the divisions of society;—the upper classes with their pitiable effeminacy, and the lower classes with their boorish ignorance,—would be harmonized, and the present jealousies and misunderstandings would be unknown. To be a car driver is not considered a very desirable position, neither is that of a society man very elevating, but it is only on account of deficient intelligence.

It has been said of the Kindergarten, that it is only good to amuse and entertain the children, without conveying any information; never was there a greater mistake, for even the songs and plays are full of instruction. Our education should make the universe a vast Kindergarten, full of suggestions for object teaching, if our education only taught us how to utilize them; but at present we have failed to grasp the real idea of instruction, and mystify, by books, the lessons which Nature is ready to unfold to her children and enable them to see God's hand in the sunshine and tempest,

earth, air and sky. We pass too much by, with closed eyes, which might be made a wide and beautiful field for mental and bodily culture, utilized for an industrial and economical purpose, not alone for childhood, but youth and maturity as well! Light seems now, however, to be coming out of the darkness, and the day for industrial education to be drawing upon us, as a solution to the problem now vexing and filling us with anxious care.

Prof. Royce says, the progress of the Kindergarten schools in the last three years is a guarantee of their ultimate success. There were but twelve in the United States in 1871. The following table, taken from the commissioners last report, shows this growth in the last four years.

	1873	1874	1875	1876
Kindergartens,	42	55	95	130
Teachers,	73	125	216	364
Pupils,	1252	1636	2809	4090

"St. Louis has made a lively beginning of incorporating the Kindergarten system in the primary department of public instruction. Boston has entered upon the same experiment.

"The Kindergarten demands the highest capacity in the teacher, shows clearly the object of education and how to reach it, the teacher studying and developing the pupil, as books do not step in between the two and defeat the true object of education."

"The dwellings of the poor offer but little variety of impressions, and yield but little food to the perceptive powers. The imagination, the will, the æsthetic faculty, and the social virtues have no chance at all in the isolation of the dwellings of the poor, where the dear little ones are not infrequently locked up as brutes in cages, while the parents are out to work."

"A sorrowful child, full of unkindness and misfortune, develops, among the lowest class, a ferocity which startles from the commission of no crime. An unhappy childhood is often the cause of a wrong life, for it perverts the judgment and natural feelings of man; depression impairs the functions and lowers the tone of body and mind."

"Infant schools cannot but become worse than useless, when children are taught in them in the manner of:

G, is for Goshen, a rich and good land,
H, is for Horeb, where Moses stand.

I, is for Italy, where Rome stands so fair,
 J, is for Joppa and Peter lodged there.
 K, is for Kadesh, where Miriam died,
 L, is for Lebanon, can't be denied."

If I were restricted to the selection of a solitary study for a child's entire education, I would unhesitatingly choose *drawing*, as being at once the most instructive, profitable, pleasurable. If I were allowed the choice of another, it would be physiology, as it would teach how to *live* intelligently, instead of violating, as is the custom, the laws of health; and if I were allowed a third study, I would confidently choose the natural sciences, as they would teach a child to observe and reflect, and give him a taste for open air exercises and recreations. With these three *alone*, a child could be safely launched out into the world and become an *intelligent* and useful member of society. All other necessary information could and would be acquired spontaneously, and, instead of having a nation of trained idiots, as has been said of us by a distinguished writer, we would have a nation of trained thinkers.

Parents clamor vociferously for the cramming of the three R's into their children's brains, the very first thing, and if it is not being done at lightning speed, they are snatched at once from an intelligent teacher and given to one who has less soul, character and ability. Our ablest teachers and thinkers unite in condemning this obsolete cramming system. Lord Brougham says, a child learns more before six years of age than ever after, no matter how long it may live, and what he says must be respected, for he was a clear and correct observer and thinker. How careful should we be that these first six years be spent to the very best advantage, placing our children under the care of the most cultivated, loving and well balanced person we can find.

The excellent health our Kindergarten children enjoy is remarkable. They lose comparatively no time on account of sickness, except from that incident to childhood. With the proper kind of food and care at home, a child's health is greatly improved.

It has been found that the children who spend a portion of each day in even the monotonous factory work and in the school-room, suffer from neither kind of labor. They average mentally with others, while their bodily functions are maintained thereby in a superior condition. Long hours of either mental or physical work are highly detrimental, to youth especially.

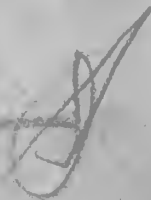
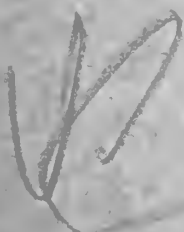
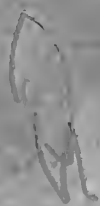
Dr. D. F. Lincoln, one of the indefatigable workers in the cause of school reform, argues, on good authority, that the growing adult of average power at the age of twenty, may devote not more than eight or nine hours to close mental work; the youth in high schools, five or six; the younger child, from two and a half to four and a half; no greater amount can be exacted of the average without doing harm." But in our schools the rules of health are entirely disregarded, through the ignorance and thoughtlessness of those in authority. Our youngest children spend five hours a day in the school-room, and most of them as many more at their homes preparing their lessons; but parents take a cruel pride in their precocious children, foolishly insisting on their promotion, each examination term; teachers and scholars think only of high averages and promotions; the average director does not give the matter a thought or a care, and the children are ground between the upper and nether millstone.

To this reformed education, then, may the thoughts of our people be turned as a necessity, to be united with every plan of development.

We must now close this very imperfect discussion of this many-sided question, with a very appropriate extract from the able pen of Rev. Charles G. Ames. He says:—"But the best proof of our loyal interest in education will next come from unsparing thoroughness in dealing with the defects of our present system. Too much books and too little nature; too much nerve strain and too little industrial training; too much routine and too little inspiration; too much memorizing and too little reasoning; too extensive and superficial a curriculum and too little care in the formation of character; too many mercenaries in the rank of teachers, and too little sympathy and human kindness; too much partisan politics in the management, and too little coöperation on the part of parents. All these must receive attention, ere the people reap half the benefits of their own liberal sowing."*

A. C. REMBAUGH, M. D.

* I am greatly indebted to Herbert Spencer's work "*Education*," and to *Deterioration and Race Education*, by Samuel Royce, published by Lee & Shepard, Boston, for much of the information given in this paper. They well repay a reading.





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